

11 March 2019

**Ex Parte**

Marlene H. Dortch  
Secretary, Federal Communications Commission  
445 12th Street, SW  
Washington, DC 20554

*Re: Expanding Flexible Use of the 3.7 to 4.2 GHz Band; GN Docket No. 18-122*

Dear Ms. Dortch:

On 7 March 2019, James Frownfelter, Deepali Schwalb, Srinu Prasanna, Stephen Salem, Jordi Bosom, Phillip Spector, Shiva Goel, and I met on behalf of the Small Satellite Operators (SSOs), ABS Global Ltd., Hispasat S.A., and Embratel Star One S.A., with Nicholas Degani and Rachael Bender, advisors to Chairman Pai.

During this meeting the SSOs made the following points:

- They accept that the Commission needs to repurpose some C-band spectrum for terrestrial wireless services and share the Commission's interest in making that happen quickly.
- They believe the Commission has the authority to accomplish this objective in a variety of ways: a private market transaction, an auction, or some combination of the two.
- The current proposal of the C-Band Alliance ("CBA"), an advocacy group for the four largest satellite operators in the world, is fatally flawed. Most importantly, the CBA's proposal excludes other operators that have C-band satellite facilities that are capable of serving the United States and that have been authorized by the Commission to do so.
- The CBA's exclusionary approach is unsustainable, unlawful, and unnecessary.
- The proceeds resulting from any transition plan should be fairly allocated among all authorized satellite operators, U.S. earth station owners, and taxpayers – and the Commission has the legal authority to mandate this common-sense result.
- If there is to be a private-market sale of C-band spectrum, it cannot be managed by the CBA, which has forfeited any pretense of objectivity or fairness.

Ms. Marlene H. Dortch  
11 March 2019  
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The SSOs also provided part of a PowerPoint presentation, attached, that they had placed in the record in December 2018.

Please let me know if you have any questions about this filing.

Sincerely,

A handwritten signature in black ink that reads "SCOTT HARRIS". The signature is stylized, with a large, sweeping "S" and the name "HARRIS" in all caps.

Scott Blake Harris  
*Counsel to the Small Satellite Operators*

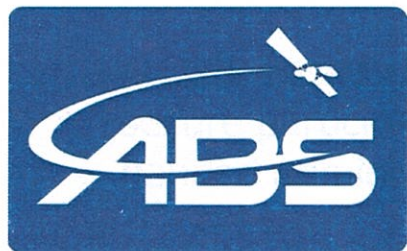
cc: Nicholas Degani  
Rachael Bender

**ATTACHMENT**

# **REPURPOSING C-BAND SPECTRUM: AN EQUITABLE DISTRIBUTION OF PROCEEDS**

**Excerpt from Ex Parte Presentation of the Small  
Satellite Operators Dated December 18, 2018**

**March 7, 2019**



## Overview

- The C-Band Proceeding presents a **unique and unprecedented opportunity** for the Commission to repurpose portion of C-Band spectrum for mobile broadband
- However, for the repurposing to succeed, all stakeholders – including all satellite operators being asked to give up valuable C-band spectrum – must be treated fairly
- The CBA (and Intelsat and SES in particular) propose a **revenue-based metric for distribution** that will result in a hoarding of transition proceeds – and render the repurposing **ineffective and overly regulatory**
- The SSOs propose an alternative: a **Distribution and Scoring Model (“DSM”)** that is **comprehensive, incentive-based, and equitable** to all stakeholders, including taxpayers
- A DSM-based distribution of proceeds offers an elegant and simple solution that will secure participation through **attractive incentives** – and thus avoids the heavy-handed administrative clearing on which the CBA proposal relies

## C-Band Satellite Operations: Key Facts

1. 62 satellites owned by 8 satellite operators have FCC authorization to operate in the C-band in CONUS.<sup>(1)</sup>
2. Intelsat and SES have an aging fleet. As of 2021, they will have an average satellite service life of less than 4 and 2.5 years, respectively.
3. Due to the size of their fleets, Intelsat and SES still account for 69% of the total service life remaining across all 62 C-Band satellites. Yet they would gain ~92% of satellite operator proceeds under the CBA proposal.<sup>(2)</sup>
4. There are ~20,000 earth station antennas registered, which are owned by over 2,700 entities.<sup>(3)</sup>
5. Top 24 Earth Station operators own around 50% of registered antennas.

### Notes

- 1) Source: Space Station Approval List (based on FCC data last revised September 11, 2018) with the adjustments described in Slide 26 of the SSO Ex Parte filed on December 18, 2018
- 2) Source: Bloomberg
- 3) Number of earth stations rounded up to 20,000 for purposes of analysis and model inputs

## DSM: Key Principles

### COMPREHENSIVE PLAN

Include All Stakeholders To Ensure a Successful Repurposing

### MEANINGFUL INCENTIVES

Incent all Stakeholders to Participate and Cooperate with Specific and Meaningful Economic Incentives

### EQUITABLE DISTRIBUTION

Allocate Value to Stakeholders In Proportion to the Value Added to the Process

# DSM Mechanics: The Proceeds Waterfall

$$(SP = E + T + SO)$$

All SALE PROCEEDS [SP]



EARTH STATION POOL [E]

**Relo Costs:** Cost of filter for all Earth Stations + Cost of Relo/Retune for impacted Earth Stations

**Incentive:** Fixed amount for each impacted Earth Station



TAXPAYER POOL [T]

**Fixed Percentage** of remaining proceeds (i.e.,  $SP - E$ )



SATELLITE OPERATOR POOL  
[SO]

**Company Allocation**

- 1/3<sup>rd</sup> of proceeds remaining after E and T pools filled
- Equally divided among 8 companies

**Satellite Allocation**

- 2/3<sup>rd</sup> of proceeds remaining after E and T pools filled
- Divided among 62 satellites based on service life. Each satellite is given a Service Life Score equal to its remaining service life divided by the total remaining service life of all satellites.



# CBA v. SSO Proposals: A Comparison

	CBA/I-SES Revenue Metric	DSM Proposed by SSOs
<b>Stakeholder Representation</b>	Driven by Intelsat and SES	Complete stakeholder representation
<b>Meaningful Incentives</b>	None to earth station owners, broadcasters, MVPDs, and small satellite operators	Meaningful incentives for earth station owners, broadcasters, MVPDs, and all satellite operators
<b>Equitable Distribution</b>	~92% of Proceeds usurped by Intelsat and SES <sup>(1)</sup>	Earth Stations/Broadcasters/MVPDs: 16% Taxpayers: 17% <sup>(2)</sup> Satellite Operators: 67%
<b>Proceeds to Medium Satellite Operators (Telesat and Eutelsat)</b>	~8% of Proceeds <sup>(1)</sup>	Increases to 12% of Proceeds
<b>Proceeds Shared with US Taxpayers and Companies</b>	Less than 1%	33%
<b>Risk of Legal and Technical Challenges and Delays</b>	High	Low

## Notes

1) Intelsat and SES have more than 90% of U.S. C-band market, and Eutelsat has approximately 5%. "Intelsat Soars as Proposal for New Airwaves Uses Progresses", (2018, June 1). Bloomberg. <https://www.bloomberg.com/news/articles/2018-06-01/intelsat-soars-as-proposal-for-new-airwaves-uses-makes-progress> ("Bloomberg")

2) 20% applied to the proceeds net of the earth stations/broadcasters/MVPDs portion

# Inputs Used

## SALE PROCEEDS [SP]

**200 MHz** across 320 mil Pops @ **\$0.40/MHz-Pop** (see Slide 20 of the SSO Ex Parte filed on December 18, 2018)

- \$ 25.60B

## EARTH STATION POOL [E]

**Relo Costs:** Cost of filter for all Earth Stations + Cost of Relo/Retune for impacted Earth Stations

**Incentive:** Fixed amount for each impacted Earth Station

- Filter: \$1,000 per Earth Station for **all** Earth Stations (i.e. 20,000)
- Relo/Retune: \$5,000 per Earth Station for **all** Earth Stations (i.e. 20,000)
- Incentive: \$200,000 per Earth Station assuming proceeds at \$25.6B and **all** Earth Stations (i.e. 20,000)

## TAX PAYER POOL [T]

**Fixed Percentage** of proceeds remaining after E pool filled

- $20\% \times (SP - E)$

## SATELLITE OPERATOR POOL [SO]

### **Company Allocation [CA]**

- 1/3<sup>rd</sup> of proceeds remaining after E and T pools filled
- Equally divided among 8 companies ( $1/8 = 0.125$ )

- $CA = 0.33 \times 0.125 \times (SP - E - T)$

### **Satellite Allocation [SA]**

- 2/3<sup>rd</sup> of proceeds remaining after E and T pools filled
- Divided among 62 satellites based on service life. Each satellite given a Service Life Score equal to its remaining service life divided by the total remaining service life of all satellites. See Slide 15, "Total Service Life Remaining of Satellite Fleet," for details.

- $SA = 0.67 \times (\text{Service Life Score}) \times (SP - E - T)$

*Handwritten note:* NAB  
07/10/15



# Comparison of Results: Revenue Metric v. DSM

Sale Proceeds  
200 MHz across 320  
mil Pops @  
\$0.40/MHz-Pop (see  
Slide 20 of the SSO  
Ex Parte filed on  
December 18, 2018)

## Total Proceeds

Revenue Metric Approach	
\$	25.60

DSM Approach	
\$	25.60

## Total in \$Bil

Total Earth Station Pool

\$	0.12
\$	-
\$	25.48
\$	25.60

\$	4.12
\$	4.30
\$	17.18
\$	25.60

Total Tax Payer Pool

Total Satellite Operator Pool

Total Proceeds

## % of Split

Total Earth Station Pool

Total Tax Payer Pool

Total Satellite Operator Pool

Total Proceeds

0.5%	16.1%
0.0%	16.8% <sup>(1)</sup>
99.5%	67.1%
100.0%	100.0%

## % of Split (US vs. Non-US)

US taxpayer and US Companies

Non-US Companies

Total Proceeds

0.5%	32.9%
99.5%	67.1%
100.0%	100.0%

### Note

1) 20% applied to the proceeds net of the earth stations/broadcasters/MVPDs portion

# Comparison of Results: Revenue Metric v. DSM

## Sale Proceeds

200 MHz across 320  
mil Pops @  
\$0.40/MHz-Pop (see  
Slide 20 of the SSO  
Ex Parte filed on  
December 18, 2018)

### **Total Proceeds**

Revenue Metric Approach	
\$	25.60

DSM Approach	
\$	25.60

### **Total in \$Bil**

Total Earth Station Pool

\$ 0.12

\$ 4.12

Total Tax Payer Pool

\$ -

\$ 4.30

Total Satellite Operator Pool

\$ 25.48

\$ 17.18

Total Proceeds

\$ 25.60

\$ 25.60

### **Satellite Operator Pool Split**

Intelsat

\$ 11.72

\$ 6.29

SES

\$ 11.72

\$ 3.06

Eutelsat

\$ 1.27

\$ 2.01

Telesat Canada

\$ 0.76

\$ 1.22

ABS

\$ -

\$ 1.70

Empresa Argentina

\$ -

\$ 1.13

Hispasat

\$ -

\$ 1.00

Star One

\$ -

\$ 0.76

### **Satellite Operator Pool % Split**

Intelsat

45.8%

24.6%

SES

45.8%

12.0%

Eutelsat

5.0%

7.9%

Telesat Canada

3.0%

4.8%

ABS

0.0%

6.6%

Empresa Argentina

0.0%

4.4%

Hispasat

0.0%

3.9%

Star One

0.0%

3.0%

Total Satellite Operator Pool

99.5%

67.1%